

systematic research of the kind, undertaken photometrically by a European astronomer, it can scarcely fail to possess some historical relation. If, as I hope and anticipate, its general usefulness and accuracy shall be acknowledged, I trust it will not be forgotten that a very considerable share of both is due to the intelligent, unremitting, and scrupulous attention of the two assistants, Mr. W. E. Plummer, F.R.A.S., and Mr. C. A. Jenkins, F.R.A.S., by whom the necessary instrumental measurements have been made; in the aggregate they exceed seventy thousand.

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*Photometric Observations of the Nova in the Andromeda Nebula, made at the Oxford University Observatory. By Prof. C. Pritchard, D.D., F.R.S.*

The following observations were taken for measuring the brightness of the new star in the *Andromeda* nebula. It was not observed at Oxford till Sept. 7, when its brightness was compared with that of  $\mu$  and  $\nu$  *Andromeda*, resulting in 8.25 mag. for the *Nova*. The star then rapidly declined in lustre until about the end of September, when it approached closely to the tenth magnitude. Since that time its brightness has faded so nearly to that of the nebula, that it is no longer measurable by the Photometer. Even during the latter part of the observations there has been very considerable difficulty in observing with exactness the magnitude of this star, on account of the brightness of the nebula in the background, which closely approaches that of the *Nova* in that portion of the nebula, near to which the star is situated. The image of that part of the nebula which appears in the photometric field, small as it is, and not exceeding a circle 25'' in diameter, nevertheless occupies a small *area* on the wedge, varying minutely in thickness, so that when the star is near the point of extinction some trace of an unextinguished light from the nebula is faintly visible.

From some cause or other, possibly connected with what has just been mentioned, the behaviour of the star in the nebula, as it approached extinction on the wedge, *even* in the earlier observations, was somewhat different from that of an ordinary star. It did not resemble the perfect point-like appearance which other stars present when near to extinction. In the large Refractor, however, no perceptible difference was observed between the *Nova* and other stars of similar brightness.

The following table contains an account of all the observations taken to fix the brightness of the *Nova* :

Date of Obs. 1885.	Magnitude of Nova when compared				Adopted Mean Mag. of Nova.
	With <i>Polaris.</i>	With $\mu$ <i>Androm.</i>	With $\nu$ <i>Androm.</i>	With <i>R. 204</i>	
Sept. 7 ( <i>a</i> )	—	8.16	8.34	—	8.25
9 ( <i>b</i> )	8.44	8.51	8.50	—	8.48
11 ( <i>c</i> )	9.19	9.20	—	9.19	9.19
13	—	9.08	—	9.01	9.05
18 ( <i>d</i> )	—	9.44	—	9.23	9.34
21 ( <i>e</i> )	9.89	9.92	—	9.70	9.84
21	10.07	10.09	—	9.96	10.03
24 ( <i>f</i> )	9.63	9.77	—	9.57	9.66
25 ( <i>g</i> )	9.81	9.95	—	9.80	9.85
26	9.66	9.68	—	9.80	9.71
30	9.65	9.72	—	9.71	9.69
Oct. 1 ( <i>h</i> )	9.64	9.71	—	9.79	9.71
3	9.94	9.76	—	9.93	9.88
5	10.02	10.02	—	9.90	9.98
7	10.06	10.16	—	9.97	10.05
12	9.60	9.93	—	9.89	9.81
16 ( <i>i</i> )	9.97	9.89	—	10.02	9.96

*Notes.*

- (*a*), (*h*) Partially fine night; sky hazy.  
 (*b*) Drifting cloud. Definition not good. (*e*) Definition bad.  
 (*d*) Sky very hazy; drifting fog and cloud.  
 (*e*) Sky variable and foggy. Observation unsatisfactory.  
 (*f*) (*g*) Moon nearly full; definition bad. (*i*) Sky foggy.

*Oxford University Observatory:*  
 1885, November 12.

*Observations of the Spectrum of the New Star in the Great Nebula  
 in Andromeda, made at the Royal Observatory, Greenwich.  
 By E. W. Maunder.*

The spectrum of this object was observed with one or other of the spectroscopes of the Royal Observatory on the evenings of September 4, 11, 15, and 30. On the first occasion, when the half-prism spectroscope was used, both in the direct position, and reversed in order to give greater purity, the star gave a perfectly continuous spectrum, in which no lines either bright or dark could be detected. The red, orange, and violet were very faint or altogether wanting, the spectrum being traceable from about D to F, but being scarcely discernible beyond those limits. The spectrum of the star resembled that of the nebula precisely, except of course that it was brighter, and, probably in

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